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No. 166

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I. GENERAL INFORMATION

'JINGJI GUANLI' DISCUSSES AGRICULTURAL RECLAMATION

HK220619 Beijing JINGJI GUANLI in Chinese No 8, 15 Aug 81 pp 9-12

[Article by Sun Panqi [1327 3382 2759], Ministry of Agricultural Reclamation: "How Has the Agricultural Reclamation System Turned From Protracted Losses To Profits?"]

[Text] Our state farms were suffering from heavy losses for quite a long period in the past and particularly during the 10 years of interference and sabotage by the counterrevolutionary cliques of Lin Biao and the "gang of four." The losses during the 12 years from 1967 to 1978 were as much as 3.7 billion yuan. Calculated on the basis of the total staff of state farms across the country, there was an average of 740 yuan of losses made by some provincial farms equalled 150 percent of the annual wages of their staff. This situation is really staggering. Therefore following the downfall of the "gang of four," it became an urgent and important task for state farms to restore order and turn losses to profits and this job is in fact an important part of our economic readjustment.

The state council and the people's governments at various levels have paid much attention to the work of state farms and they stressed that these farms must be managed well so that they would be able to turn from losses to profits. In 1978, the state council held a national conference on the work of state farms to thoroughly settle accounts for the crimes committed by Lin Biao and the "gang of four" and make arrangements for rectifying state farms. Thanks to the measures taken to restore order, the production and construction of state farms were rehabilitated and developed quite rapidly while much improvement has been made in management.

Following the 3d plenary session of the 11th CCP Central Committee, our state farms deeply discussed the criterion for judging truth and have implemented the principle of "readjusting, reforming, rectifying and improving," spared no efforts in shifting their work to production and following economic laws and consequently they have made basic changes in management. The losses suffered by the state farms in 1978 dropped to 93 million yuan while in 1979 they made 520 million yuan profits. In 1980, many regions were hit by natural calamities and state farms had additional expenses of 630 million yuan on readjusting the wages of their staff and subsidies for nonstable foodstuffs, yet they still made 540 million yuan profits. The number of the enterprises of the state farms that made profits accounted for 60 percent.

How did the state farms turn from losses to profits in the past 3 years?

1. Strengthen Leadership, Correct Understanding

The state farm management departments at various levels and the farms themselves have regarded turning losses to profits as their major task and a key work of leadership is to repeatedly educate the broad masses of staff and workers so as to raise their understanding of the importance of turning losses to profits. Owing to the influence of "leftist" mistakes that existed for many years, a number of cadres in state farms had the thinking of "asking for refunds from higher authoities for what their farms spent and asking for subsidies for their losses" and consequently they did not care about and were indifferent to serious losses. Some others thought it was "difficult to run farms and turn losses to profits." The nature of these problems was that these cadres did not understand the purpose and tasks of running state farms. Thus without solving such problems in ideology and understanding it would be impossible for state farms to turn losses to profits. In line with our party's ideological line of seeking truth from facts and on the basis of the discussions of the criterion of truth and by proceeding from the reality of state farms, the following three points were defined to solve the ideological problems in turning losses to profits. First, the basic task of the state farms is to supply more and better agricultural and animal husbandry products and other products and provide as much profits as possible to the state and accumulate funds for socialist construction. With losses, the state farms have to rely on state subsidies and this means that instead of having their share in building socialism they are adding burdens to society. With this understanding, cadres have a definite understanding of the guiding ideology in the economic work of state farms and they began to care about economic effect. Thus with less blindness in production, these cadres became aware of turning losses to profits. Second, raise the understanding of socialist economic laws to gradually solve the shortcomings of the system and method of economic work. On the basis of summing up experience, measures should be taken to reform the rules and regulations that hinder the initiative of enterprises and staff and workers and the development of production, learn to use economic methods as the key and combine them with the necessary administrative interference as the method for farm management; overcome the management thinking of the distribution system and small peasant economy, strictly follow natural and economic laws and carry out the enterprises form of management in state farms.

Third, fully understand and tap the potential of farms, soil, machinery, man power, material power, financial power and natural resources, overcome shortcomings and display advantages. But to do this it is necessary first of all to emancipate the mind, break with old conventions and carry out work daringly. Under the premise of maintaining the system of ownership of the means of production and implementing the principle of distribution according to work, where it is feasible, various undertakings must be undertaken by farms, production teams or dependents of staff and workers' households according to specific conditions so as to expand production and open up more resources in a bid to reverse the situation of losses.

2. Readjust Economic Structure, Work Out Operational Policy According To Specific Conditions

Many state farms have a low production level with bad economic effect and consequently they have suffered losses; to a great extent, such a situation was caused by an irrational economic structure and improper management principles. Therefore various state farms have gradually readjusted their economic structure and management in a planned way and in doing this they have in general followed the following principles. First, production and management are considered according to the needs of the state as well as the production and life of state farms. Seocnd, display the advantages of state farms according to their natural conditions, resources and socioeconomic conditions. Third, rationally arrange the proportions of the production of various trades according to the relations of interindependent and mutual promotion among agriculture, forestry, animal husbandry and diversified management. Fourth, combine the development of modern and big-scale agriculture with the development of labor intensive agriculture. Fifth, select the items of production on the basis of economic effect. Starting from their own specific conditions, various state farms comprehensively studied these principles and took initial readjustment measures with apparent achievements to promote production and increase income. The reclamation areas in Heilongjiang Province have fully displayed their advantages of a large acreage of cultivated land and high mechanization and they have readjusted the location of crops and concentrated their efforts in promoting the production of wheat and beans. Thanks to these efforts, they have drastically increased total and per unit area grain and bean output and drastically increased the amount of commodity grain that was handed over to the higher authorities. Per unit area grain and bean output increased from 202 jin in 1978 to 253 jin in 1980, an increase of 24 percent; total output increased by 37 percent from 4.9 billion jin to 6.74 billion jin while the amount of commodity grain handed over the higher authorities increased by 80 percent from 2.2 billion jin to 3.98 billion jin. The reclamation areas in Xinjiang displayed their advantages of good natural conditions and large population to combine modern and big-scale agriculture with labor intensive agriculture and under the premise that total grain output must constantly be increased and the task of handing over commodity grain to the higher authorities be fulfilled, they readjusted the structure of their crops and actively promoted the development of industrial crops that bring big economic achievements and that require more labor. Total grain output in 1980 was 1.8 billion jin and the amount of grain handed over to the higher authorities was 400 million jin, 7 percent more than 1979. The acreage for growing cotton was expanded by 200,000 mu, totaling almost 1 million mu. Total output of sugarbeet was 299,300 tons and of hops was 1,640 tons, increases of 28 and 50 percent respectively over the figures for 1979. The Wulagai region of inner Mongolia has water and grass resources that are suitable for developing animal husbandry. According to the principle of overcoming shortcomings and displaying advantages, the four state farms in this region shifted their production from agriculture as the main stay to focus on animal husbandry and farmlands were turned to developing animal husbandry. At the same time, measures were also taken to improve grasslands and protect and increase animals. These farms have consequently developed animal husbandry quite rapidly. The rate of increase of animals in 1980 was 17 percent higher than the previous year and the qualified rate of meat animals increased by 34 percent. Some farms in the northwest and north have planted sunflowers, rapeseeds and hemp by making use of poor and alkaline-saline soil that is unsuitable for growing grain. Some farms in the south have grown tea and oranges in hilly regions. The rubber plantations in Guangdong and Guangxi that were damaged by typhoons and cold spells have been replaced by planting tea and sisal hemp so as to improve the economic effect.

In readjusting the structure of agricultural products, the state farms and their management departments also paid attention to readjusting their industry so as to shift the main task of readjusting their industry so as to shift the main task of industry from machinery processing to focus on processing agricultural and sideline products. These state farms have also developed the light and textile industries quite rapidly.

The industry in reclamation areas across the country produced 165,000 tons of sugar in 1980, an increase of 41 percent over the previous year; it turned out 100,000 tons of paper, an increase of 20 percent while the output of fiber plates increased by 100 percent. In addition, some enterprises that were operating below capacity or suffered losses were either shifted to other modes of production, closed down or suspended. Statistics showed that 120 enterprises of the reclamation areas in 8 provinces and autonomous regions in Heilongjiang, Hebei, Liaoning, Shaanxi, Xinjiang, Jilin, Jiangsu and Hubei have been closed, suspended, merged or shifted to other production. The reclamation areas in Heilongjiang province were able to decrease losses by over 3 million yuan by closing and suspending 13 enterprises. Thanks to readjustment work, the industry of the reclamation areas throughout the country turned out products with a gross output value of as much as 4 billion yuan; 22 percent higher than the 3.2 billion yuan of 1978.

3. Reform Management System, Implement Production Responsibility System

The state farms are agricultural enterprises under the socialist system of ownership by the whole people, but because of the shortcomings in the management system, the state was in a position for a long period to "monopolize the revenues and expenses" of such farms. All the farms were "eating out of a big pot." Such a situation consequently seriously affected the enthusiasm of these farms and their staff and workers. Starting in 1979, the state implemented the method of placing financial quotas on state farms while the farms introduced the "three quotas and one award" system for production teams. These two reform measures are of basic significance to the management of state farms.

From 1979 to 1985 [as published], the state has begun to implement independent accounting and responsibility for one's own profits and losses for the enterprises in the reclamation areas. In this aspect, the following different methods are used according to the specific conditions of enterprises:

1. The method of "independent accounting, responsibility for one's own profits and losses, retention of profits and no subsidies for losses" has in general been introduced in state farms and their industrial and commercial enterprises.

2. The method of "fixing quotas to be handed over to the higher authorities, fixing quotas once every year, retention of profits and no subsidies for losses" has been introduced in the industrial and supply and marketing enterprises that belong to rubber plantations and the departments of reclamation areas at various levels and to the few state farms that are making big profits.

3. Consideration is given for 1 to 2 years to the few state farms with bad natural conditions and temporary losses. Such farms are implementing the method of "fixing quotas with subsidies once every year, retention for profits and no subsidies for losses."

With the introduction of fixing financial quotas in state farms, the enterprises have expanded their autonomy and increased their responsibility while their initiative has been mobilized. As a result, these enterprises are in a position to use their own profits for expanding reproduction and they have achieved a better economic effect. The Hebei provincial farm is the earliest to implement the method of fixing financial quotas and from 1974 to 1978 it made 66 million yuan of profits that were used in improving production conditions and expanding reproduction. This farm has consequently been able to increase its income by a big margin. In the successive 2 years from 1979 to 1980, it made more than 30 million yuan of profits.

State farms introduced the "three fixed quotas and one award" system among production teams, that is fixed output value, fixed production costs and fixed profits, and award for overfulfillment of planned profits. Some other state farms have introduced "four fixed quotas" or "five fixed quotas" but they all have similar contents. The profits made after meeting the plan are in general distributed in the proportion of "4, 2 and 4" and this means that 40 percent are for state farms, 20 percent for the retention of production teams and 40 percent for staff and workers' awards. Other proportions are "3, 2 and 5" and "5, 1 and 4," depending on the amount of output value and profits. The production teams themselves are in general implementing the production responsibility system of "division of labor according to specialization, accounting by each trade, assigning responsibility to groups, individual responsibility, fixed quotas with work points, payments according to work points, awards for overfulfillment of output quotas and punishment for underfulfillment of output quotas." With this system, each is able to do the work according to his ability and is responsible for his work. As a result, labor efficiency and the quality of work have been improved considerably with apparent improvement in management. The method of fixing output quotas for individual households and individuals and linking remuneration to output has been used with regard to a few production items that are suitable for handicraft work.

With the introduction of the production responsibility system, the enterprises are able to combine the achievements of their management with the economic interests of their staff and workers to change the method of "eating out of a big pot," mobilize the enthusiasm of staff and workers and promote production. The Hongxinglong Administrative Bureau of the Heilongjiang reclamation areas which has implemented the production responsibility system most effectively produced a total of over 1.6 billion jin of grain and beans in 1980, with an average of 28,000 jin per agricultural worker; the amount of commodity grain handed over to the higher authorities was over 1 billion jin. The 12 farms under this bureau made more than 1 billion yuan of profits. The agricultural reclamation system of Jiangsu province implemented the responsibility system of linking remuneration with output in 1979 and as a result, the agricultural enterprises made 11 million yuan of profits in the same year while in the previous year they lost 12 million yuan. The staff and workers said: "In the past, cadres shouldered heavy responsibility is being shouldered by the masses." Thanks to the introduction of the system, the Jiangsu profincial reclamation areas have been able to considerably improve labor productivity.

4. Develop Economic Integration, Carry Out Comprehensive Operation of Agriculture, Industry and Commerce

The correct orientation for the development of our modernized agriculture is to develop agricultural-industrial-commercial integrated enterprises because they represent the trend of economic development. Because of our backward commodity economy, low level of socialization in production and the influence of the thinking of the natural economy, our state farms purely developed agriculture for a long period in the past and neglected comprehensive operation, all-round development in linking production, supply and marketing and in linking agriculture, industry and commerce. For quite a long period, they were just supplying raw materials and they did not carry out any processing let alone operate any commerce. Such a situation was in fact one of the reasons that caused the enterprises in the reclamation areas to develop slowly and surely for a long period.

In 1978, some state farms began to trial-run agricultural-industrial-commercial joint enterprises that have now developed considerably. Now there are 194 units trial-point units running such enterprises and the number of farms participating in such trial points is 570, 28 percent of the total enterprises in reclamation areas. Agricultural reclamation agricultural-industrial-commercial joint enterprises have already broken with the demarcation between regions, departments, trades and system of ownership to form a wide economic union. Based on agriculture and animal husbandry, such integration is centered on processing agricultural and sideline products and by adopting commerce as the means for circulation, they carry out comprehensive operation of agriculture, industry and commerce and streamline production, processing and marketing into a coordinated process. Thus having mobilized the initiative of agriculture, industry and commerce and the economic advantages of such integration, these farms have been able to develop production and increase income and profits. The Changjiang joint enterprise in Chongqing made 40,000 yuan of profits in 1978 and 2.5 million yuan in 1980. The Changcheng agricultural-industrial-commercial joint enterprise in Beijing made 20 million yuan of profits in 1979 and 30 million yuan in 1980, 100 to 200 percent higher than the profits made before 1978. Thanks to these achievements, this integrated body has been able to turn the losses suffered for 10 years or more in agriculture and animal husbandry (in 1978 alone, the losses were 2.36 million yuan) to 4.46 million yuan of profits in 1979.

5. Rectify Farms, Raise Management Level

The standard of management is vital in running state farms. Without scientific management, enterprises will not be able to fully display the conditions in production and technology. To improve management and production technology are two indispensable factors for developing farm productivity. Taken from the view point of the whole agricultural reclamation system, the management of state farms is low, coupled with bad economic effect. Therefore measures were taken over the past 3 to 4 years to completely rectify the state farms in a planned and gradual manner. The recertification consists of the following:

/First, rectify leadership element./ The key work in this aspect is to rectify ideology. Cadres of the farms and production teams are organized to conscientiously study and implement the party's principles and policies, further overcome "leftist" ideological influence and emancipate the mind. As a result, the remnants of feudal ideology such as factionalism and "one person alone has the say" have been basically eradicated and various unhealthy tendencies have been corrected. While rectifying ideology, measures were also taken to rectify and restructure organizations, transfer incompetent cadres from the leadership elements and promote to leading positions the young cadres and technicians with high ideological consciousness, specialized knowledge and who are full of enthusiasm. In some farms, cadres for production teams were democratically elected and they have made achievements in their work. These measures are in fact an organizational guarantee for turning losses to profits.

/Second, strengthen the building of the ranks of staff and workers./ Most state farms have been able to establish good order in both production and life through active ideological and political education, education on observing laws, commending good people and deeds and correcting anarchism and evil tendencies. At the same time, measures have also been taken to train staff and workers. In 1980, the state farms across the country trained more than 320,000 cadres and workers through various forms to help them raise their political and ideological level as well as management and technological level.

/Third, rectify the management of enterprises./ According to the need to run management like enterprises, measures have been taken to readjust the management system of state farms. As a result, the structure of the farms that was based on the structure of military organization has been changed, unnecessary subdivisions of farms have been abolished while some production teams with too small a production scale that did not facilitate management have been merged. The number of nonproductive staff has been sliced from over 20 percent of the total staff to 17 to 18 percent and 12 percent in a few farms. The management system for planning, labor, finance, goods and materials, products and technology has been established and perfected. Measures have also been taken to strengthen economic accounting and cost management, improve labor productivity and the commodity rate and lower production costs. The Xinhua farm of Heilongjiang province was a longstanding and difficult unit that suffered losses for many years. In 1980, it carried out wholesale rectification and consequently it has been able to free itself from losses in 1 year. In 1979 it suffered 6.48 million yuan of losses but in 1980 it made 1 million yuan of profits. The Linghai farm of Jiangsu province is located in the coastal areas of the east China Sea. With its alkaline soil, its management system constantly changed, and ineffective operation, this farm suffered losses for successive years. It suffered 22.64 million yuan of losses in 20 years while in a certain year the losses were as high as 1.62 million yuan. After 2 years of rectification, it turned losses to profits. In 1980 it made over 110,000 yuan of profits and it became the first farm in the provincial agricultural reclamation system to get rid of the biggest losses.

The above-mentioned five measures are the common and basic measures taken by the departments of reclamation areas in their efforts to turn losses to profits. But it must be pointed out that it is also a very important factor for turning losses to profits that the state must support agriculture, particularly in readjusting the prices of agricultural products, so that agricultural reclamation enterprises will be able to increase their income.

Taken as a whole, the state farms have, over the past 3 years, turned losses to profits. But the present management of these farms leaves plenty of room for improvement. Their profit rate is still low and 40 percent of the enterprises are still suffering from losses. Thus it remains an urgent task for these farms to turn losses to profits. This problem was discussed as a key question at a national conference of directors of agricultural reclamation bureaus that was convened in April this year. The conference decided that agricultural reclamation enterprises must basically get rid of losses in the next 1 to 2 years and increase profits considerably so as to make a positive contribution to the country's modernization program.

CSO: 4007/593

NEW RICE VARIETIES DESCRIBED

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 pp 6-7

[Article: "Rice Varieties"]

[Text] Variety 74-02

Variety 74-02 is an intermediate-maturing intermediate geng [Japonica] rice variety which we bred in 1973 by sexual hydridization using Chengduai No 8 as the maternal parent and Xin Liang No 7 as the paternal variety. The yield is generally about 900 jin per mu and may range as high as 1,200 jin per mu. In 1977-1979 it was included in the single-crop intermediate geng variety regional test plantings in Jiangsu Province. It had the top output in each of the 3 years, with average yields of 968.4, 897.5 and 997.7 jin per mu, which were higher by 25.2, 9.6 and 20.9 percent respectively than the control variety, Nongken 57, and also matured 13-15 days earlier. In this institute's high-yield experimental fields, the yield exceeded 1,200 jin per mu in 1977-1979. In 1980 it produced a yield of 1,220.7 jin per mu in a 100 mu replicated [lian pian 6647 3651] high-yield cultivation in Guhetao Brigade, Ganma Commune in this country, which was organized by the provincial, prefectural and county scientific and technical committees; an average yield of 1,384.4 jin per mu was achieved in an area of more than 23 mu. In 1979 and 1980 it was planted on more than 100,000 mu on this county, accounting for more than a quarter of the total rice acreage. It has already been introduced in experimental plantings in Shandong, Anhui, Hunan, Hubei, Sichuan, Shanxi and Fujian and Guangdong Provinces. According to incomplete statistics, the area planted to this variety exceeds 500,000 mu.

Characteristics. The plant is about 103 cm tall and has a growth period of 135-140 days. The plant grows densely, with thick, vigorous, upright stalks. It has a leaf age of 14; the leaves are thick, broad, short and deep in color; the flag leaves are 25-30 cm long and 1.6-1.8 cm wide. Tillering is relatively weak, but the heading rate is high. The panicles are about 17 cm long, and each panicle has a total of 120-160 grains and 100-130 full grains. The hulls are brownish yellow and the apicules are purplish red, with some short purple awns. The weight per thousand grains is 25-28 grams, the husked rice yield rate is over 80 percent, and the rice quality is medium.

Important points in cultivation. (1) Growing vigorous seedlings. The seed should be sown in the first 10 days of May at the rate of 80 jin per mu of seedling bed, producing vigorous 35-day seedlings. (2) Rational planting density. Transplant in about the middle 10 days of June, generally with a spacing of 6 x 3 cun, with 33,000 bunches of 4-5 seedlings each per mu, resulting in a base figure of 150,000 seedlings per mu which produce over 200,000 panicles. (3) Scientific fertilization. Yields of 1,000 jin per mu require over 25 jin of nitrogen, while yields of over 1,200 jin per mu require 30-35 jin of nitrogen. The fertilization application approach should be: "Sufficient base fertilizer, rapid surface fertilization, sufficient dressing in the early stage, controlled dressing in the middle stage, correctly-chosen dressing in the late stage." The fertilizer application per mu should be 5,000-8,000 jin of barnyard manure, 50 jin of ammonium bicarbonate, 30 jin of potassium chloride and 50 jin of calcium superphosphate as base fertilizer, 20 jin of ammonium bicarbonate as surface fertilizer, 30 jin of ammonium bicarbonate fertilizer as a dress 7 days after transplanting, and 20 jin of ammonium sulfate 20 days before earing. (4) Water management. The plants should be irrigated with a cun of water in the regreening stage and shallowly irrigated thereafter, followed by an alternation of dry and moist with absolutely no deep-water irrigation. In the middle stages the fields are baked, and in the late stage they are watered intermittently. They must not lack water during the 10 days after full heading, after which periods of dryness and moisture may alternate, with moistness predominating, allowing the plants to reach maturity. (5) Timely pest control measures should be taken.

The price of the seeds is 0.17 yuan per jin. National universal grain coupons will be accepted for 0.7 jin. There is no limit on quantities. Packaging and postal charges are computed in terms of the quality of seed and the distance shipped.

(by Wang Muqing [3769 3092 3237], Ganyu County Institute of Agricultural Science, Jiangsu Province)

Hong'ai No 1 (Late-Maturing Xian Variety)

Hong'ai No 1 is a superior late-maturing xian [Indica] variety of rice which the Chengmen Commune Superior Varieties Station, Fuzhou City, bred from the red late-maturing [Hong wan] system. In 1976 this station imported a small quantity of seeds from Hainan Island for test planning, achieving excellent results. That winter, accelerated propagation of 3 jin of seed was carried out on Hainan Island, yielding 820 jin of seed. In 1977 the seed was distributed among the Chengguan, Xikou Qucun and other brigades for test planting, and the response was excellent. In 1980, about 30,000 mu of land in the county was planted to this variety. In 1978 our station raised a single late crop on 5.21 mu and obtained 2,970 jin of dried grain, an average yield of 570 jin per mu, which was more than 100 jin per mu higher than for Siyou No 2 in similar mountainous ridged-field conditions. Yields of over 700 jin per mu were obtained in late double cropping culture.

Characteristics. In single-crop late cultivation the total growth period is about 150 days; in double-crop late cultivation it is about 125 days. The plants grow 70-75 cm tall. The leaves are small, narrow, short and erect; the plants grow fairly dense and have thin, pliable, tough stalks. There is intensive tillering and the earing rate is high, with a fruiting rate of over 80 percent and a weight of 24-25 grams per thousand grains. The rice yield is over 70 percent and the quality is good. It is fertilizer-tolerant and disease-resistant, with broad adaptability. The seedling age [for transplanting] is flexible. It has rather good cold resistance in the late stage.

Important points for cultivation. Sow sparsely for vigorous seedlings. For single late crop cultivation, the seed should be sown during the Grain Rains solar period, while for late-season double cropping it should be sown in the middle 10 days of June. About 150 jin should be sown for each mu of seedling bed, and the seedlings should be transplanted at 35-40 days. The planting density should be 6 x 4 cun or at most 6 x 5 cun, and 8 plants should be planted in each bunch, giving a base figure of about 200,000 plants per mu. An adequate amount of base fertilizer should be given, generally amounting to about 70 percent of the total quantity of fertilizer applied. In the early stage a good tillering fertilizer should be given, and a properly chosen amount of late-stage dressing should be applied. Early fertilizing should be heavy but not excessive supplementary fertilization should be carried out in the middle stage to produce vigorous shoots, and a late dressing to increase grain weight should be applied in the late stage. The water level should be shallow in the early stage and the fields drained in the middles stages, and the ground should be kept moist in the late stage; after the milky stage the plants should not be heavily irrigated, in order to prevent node rot and disease, which would decrease output.

The price of the seed is 0.15 yuan per jin. National universal grain coupons will be accepted for 0.7 jin. There is no limit on quantities. Packaging and postal charges are set in terms of quanity and distance.

(By Yu Qiaohao [0151 0829 3185] and Li Ruifang [2621 3843 5364], Jianning County Superior Varieties Station, Fujian Province)

Zhongzuo 75 (Xian-Geng Cross)

Zhongzuo 75 is a new variety which we bred by indirect crossing of the xian and geng inferior species. The early-maturing, large-grained variety Hejiang No 8 from the northeast was used as the female parent, and was crossed with the early-maturing, high-yielding, disease-resistant Guangdong xian [Indica] variety Yiqing No 8 as the paternal strain; then, in order to overcome problems such as excessively low fertility and excessive segregation of inferior species among the hybrids, we also used the fertilizer-tolerant, lodge-resistant, medium late-maturing Beijing-grown geng [Japonica] variety Beijing No 9 as the female parent in a cross with the later generations of the Xian-geng cross, developing the variety by repeated selection. As a result, it has from its parents the characteristics of short stalks, large grains, large panicles, disease and lodging resistance, and good growth habits. In 1979 a small-area experimental planting in our institute yielded 1,024 jin per mu, 14 percent higher than the control variety, Zhongdan No 2. In 1980 this institute made a demonstration planting of 0.66 mu, obtaining a yield of 1,179 jin per mu. The variety produced the top yield in comparisons of intermediate-maturing varieties, with a small-area yield of 1,300 jin per mu, 20 percent higher than for Jiangyuan No 1 and 4.4 percent higher than for Zhongdan No 2. A planting of 120 mu was made at Gangfu Farm in Jiangsu; a 1-mu demonstration field in single-crop cultivation yielded 1,074 jin. The Jicheng Commune scientific and technical station, Zhengzhou City, Henan, obtained a yield of 1,063.8 jin per mu in a barley-rice rotation.

Characteristics. This is an intermediate-maturing variety whose total growth period is about 150 days in Beijing, 129 days in a barley-rice rotation in Donghai County, Jiangsu, and 121 days in a barley-rice rotation in the Zhengzhou suburbs. The plants are about a meter tall, with a panicle length of 20-30 cm, the grains are somewhat sparse in the panicle, with an average of 120-130 grains per panicle, and the fruiting rate is 94-96 percent, with a weight of 29-30 grams per 1,000 grains. The grain hangs below the leaves [ye xia he 0673 0007 4421]. It has an erect flag leaf and when mature it has a green stalk and yellow panicles. The stalk is short and vigorous, fertilizer-tolerant and highly lodge-resistant. The grains do not easily shatter, there is no sprouting in the panicle, the husked rice yield rate is 80.5 percent, and the rice is of grade 1. It is highly resistant to rice blast, relatively resistant to bacterial leaf-blight, and resistant to sheath and culm blight.

Cultivation points. In the Beijing-Tianjin area it can be planted as a spring intermediate-maturing variety or rotated with rape or barley. It is generally sown in late April or the first 10 days of May, the seedlings are transplanted in the first or second 10 days of June, and it ripens before the end of September. The best base number is 80,000-100,000 plants per mu, with 200,000-250,000 panicles per mu. This variety has thick, vigorous stalks, and after transplanting, damage by snout moth larvae must be prevented and controlled. Suitable fertilization and water management must be practiced, and baking of the fields in the middle stage should be mild to avoid decreasing the effective number of panicles or producing panicle degeneration. In the late stage, watering should not be stopped too early, so as to avoid early dying back.

The seed price is 0.2 yuan per jin. National universal grain coupons will be accepted for 0.8 jin. The packaging and postage charge is 1 yuan and the quantity is limited to 2 jin.

(By Xing Zuyi [6717 4371 7328], He Jiaqi [0149 1367 7841] and Wang Shumin [3769 3219 2404], Paddy Rice Breeding Laboratory, China Academy of Agricultural Sciences)

Guangfushu (Glutinous Rice)

In the early planting season of 1978 we subjected Zhejiang glutinous rice to 50 kiloroentgens of colbalt-60 gamma radiation and irradiated it for 2 seconds with a CO_2 laser (the cobalt source dose rate was 200 roentgens per minute and the CO_2 laser energy density was 254.65 joules/cm^2), after which selection was carried out. In 1979 this variety was discussed at a joint meeting of the municipal laser plant breeding cooperative group and the municipal hybrid rice cooperative group and was given the name Guangfushu. In 1980, early and late season experimental and demonstration plantings amounting to 1,000 mu were made in several communes in Minhou County in the suburbs of the city [Fuzhou] and in Lianjiang and Zhonghe Counties; these generally produced yields of about 800 jin per mu. Both early-season and late-season crops are possible; in our institute's demonstration plot of somewhat more than 1.2 mu, early crops gave an average of 890.2 jin per mu, and late crops gave an average of 995.5 jin per mu.

Characteristics. When grown as an early-season crop on the Fujian plain, the total growth period is 108 days, while when grown as a late crop the period is 120 days. The plants are 81-90 cm tall and are fairly dense, with strong tillering. The leaves are light green and the flag leaves are 20.1 cm long and 1.05 cm wide. The panicles are 17.1 to 19.2 cm long. The effective number of panicles is 305,000-352,000, with 50-60 grains per panicle and a fruiting rate of about 85 percent. The weight of a thousand grains is 31.5 grams for the early crop and 32.4 grams for the late crop. The grains have little tendency to shatter. The variety is fertilizer-tolerant and relatively cold-resistant. There is a good late-period color change. The rice quality is medium.

Cultivation points. For an early-season crop, the seed should be sown in the middle or last 10 days of March; as a first crop on a hybrid-rice seedling bed or seed plot the sowing should be advanced to 10 March and the plants covered with plastic film. The seedlings are moistened and lifted with shovels for transplanting. About 500-600 jin of seed should be sown per mu of seedling bed and the seedlings raised until they are vigorous and have started tillering. As a late-season crop in the Fuzhou plain it is seeded before 20 July. The spacing for transplanting should be 6 x 4 or 5 x 5 cun, with 10-12 plants in a cluster. Because of the long growth season, adequate base fertilizer should be applied, followed by a fast-acting dressing to encourage early tillering and to obtain many large panicles. In most fields of communes and brigades which are located on plains, provided that sufficient base number of plants is transplanted and 15-20 jin of nitrogen is applied per mu, together with a suitable quantity of phosphorus and potassium fertilizers, a yield as high as 900 jin per mu can be expected. Before the young tillers separate, daojiaoqing should be used once to prevent sheath and culm blight.

Quantities are limited to 3 jin. The price is 0.5 yuan per jin and grain coupons are not accepted. Packaging and postal charge is 3 yuan (1.5 yuan for wooden box and postage, total cost per crate 3.5 yuan).

(By Weng Fulin [5040 4395 3829], Fuzhou City Institute of Agricultural Science)

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CSO: 4007/460

NEW SWEET POTATO VARIETY DEVELOPED

Beijing NONGYE KEJ TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 p 7

[Article by Li Shanfa [2621 6365 4099], Guangdong Province Agricultural Bureau: "Chaoshu No 1, a High-Yield Sweet Potato Variety"]

[Text] Zhaoshu (Zhaoci) No 1 is a high-yielding sweet potato (Fanci) variety whose breeding was completed in 1976 following a cross of Qingxin Shalaye and Puci No 6 by the Chaoyang County Institute of Agricultural Sciences, Guangdong in 1973. In 1977 the Chaoyang County Institute of Agricultural Sciences planted 1.2 mu with this variety and achieved a yield of 11,826 jin per mu. Xikou Brigade, Xichang Commune, Jieyang County planted 36 mu to this variety and achieved a yield of 12,323 jin per mu, while a yield of 18,200 jin per mu was achieved in a 1.03-mu area, setting a record for sweet potato yields in Guangdong Province. In 1979 the variety was planted in Xingning, Wuhua and Fengshun counties, all of which achieved yields over 10,000 jin per mu over large areas. In 1980 about a million mu was planted to the variety.

The characteristics which produce the large yields of Zhaoci No 1 are that the above-ground part grows rapidly in the early stage, elongates steadily in the middle period and does not die back quickly in the late period. The sweet potatoes are formed rather early underground, grow rapidly in the middle period and last well in the late stage. Increased yields are realized in both spring and summer plantings. The apical and other leaves are green, the leaves are heart-shaped, and the stalks are green with a slight purplish tint and are short, recumbent and highly branched; the sweet potatoes are spindle-shaped with yellow skin and pale yellow flesh, with purple streaks. The sweet potatoes tubers are produced in clusters and are all of normal shape. Most plants produce 4-5 sweet potatoes, but some produce as many as 13-14; the drying rate is 20-21 percent and the flour yield is 10-11 percent. The water content is relatively high, but the taste is rather sweet. This variety is not drought-resistant, and accordingly it must be given adequate moisture during transplanting; if the sunlight is intense after transplanting the plants must be watered once a day for 5-6 days until they are established. They are highly adaptable and not selective with regard to soil. But their cold resistance is only moderate.

Cultivation points. (1) Producing vigorous seedlings. Sweet potatoes with blunt ends which are free of disease or insect damage and weighing at least a half jin are selected for propagation and the seedlings are raised in early spring until vigorous. (2) Removing the apex [Xin 1800] when setting out. Healthy tou duan [2435 3008] seedlings with many nodes and with 3 or 5 leaves are selected, and the apex is removed when transplanting in order to concentrate nutrients and produce early, rapid growth and sweet potato production. After transplanting the plants are covered with a thin layer of rice straw to keep off the sun and are watered. (3) Sufficient base fertilizer and several applications of dressing. Some 20-30 dan per mu of local mixed fertilizer and 100-200 jin of wood and straw ash are applied as base fertilizer. About 15 days after transplanting a light dressing is applied, and 30-40 days after planting, when the vines and leaves are growing vigorously and the potatoes are index finger size, they are given a heavy fertilization so as to accelerate growth of the sweet potatoes. Thereafter one or two more applications of fertilizer are given, depending on leaf color, to prevent leaf drop and early dying back. (4) Water management. After the irrigation ditch is dug the most impportant thing is to give the plants light watering to establish them, keeping them moist so that the roots and vines can grow, withholding water when the sweet potatoes are forming and keeping the plants moist when they are enlarging.

The price of seed sweet potatoes is 0.08 yuan per jin. A national universal grain coupon will be accepted for one jin out of five. There is no limit on quantities. The potatoes may be ordered directly from the Chaoyang County Institute of Agricultural Sciences, Guangdong Province.

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CSO: 4007/460

NEW SOYBEAN VARIETIES DESCRIBED

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 p 9

[Article by Soybean Group, Changchun City Institute of Agricultural Sciences, Jilin Province: "Soybean Varieties"]

[Text] Changnong No 1

Changnong No 1 was developed by our institute in 1973 by a sexual cross of Jiunong No 1 as the maternal parent and Dongnong 33 as the paternal parent. In 1977-1979 it was included in province-wide regional tests. It gave an average yield 13.1 percent higher than the control variety in 37 different locations. In March 1980 this province's variety evaluation committee named it Changnong No 1; it also won an award for scientific and technical achievement from the provincial agricultural office.

This variety is an indeterminate-podding type. The plant is 75-80 cm tall with a strong stalk and with limited branching. It has sharply-pointed leaves and purple flowers and is covered with grapy pubescence. Most pods have 3 or 4 beans, of large size (22-25 g per hundred, with a light yellow color and of uniform size. The growth period is 125-130 days and the effective cumulative temperature is 2,000° C. It is not harmed by septorial brown spot of soybeans and is highly adaptable. The fat content is 19 percent and the protein content is as high as 43.8 percent, making it a relatively high-protein variety.

Given sufficient water and fertilizer, the proper density is 12,000 plants per mu and the yield may reach 400 jin per mu; in medium water and fertilizer conditions, each mu should be planted with 14,000 plants and the yield can surpass 300 jin per mu.

The price per jin of seed is 0.43 yuan and grain coupons will be accepted for 1 jin. Packaging and postage are extra, and the supply is limited to 2-5 jin.

Changnong No 2

Changnong No 2 is a hybrid developed by our institute in 1971 using Jiunong No 2 as the maternal parent and Jilin No 3 as the paternal parent. In 1974-1976 we carried out comparison tests within and outside of the institute. In 1977-1979 the variety was included in province-wide regional tests; in tests in 36 different locations it gave yields averaging 12.8 percent higher than the controls. In interplanting conditions, the increase in yield is even greater. When soybeans and corn are interplanted in a 2 : 2 ratio, the yield can be increased by 15-20 percent or even more. Changnong No 2 is a high-quality variety with a protein content of 40 percent and a fat content of 20 percent. In March 1980 it was approved by the Jilin Provincial Variety Evaluation Committee, and it won an award for scientific and technical achievement from the provincial agricultural office.

This variety is a semi-indeterminate-podding type. The beans are of medium size (20-22 grams per hundred) and are a lustrous bright yellow. The plant has round leaves, white flowers and gray pubescence and most pods have 2 or 3 beans. The growth period is 125-130 days. It is free of septorial brown spot of soybean and resistant to disease and insects, and is widely adaptable. The stalks are strong, the pods densely culustered and the individual plant productivity is high, with steady high yields.

With large amounts of water and fertilizer, the best density is 12,000 plants per mu and the yield may reach 350-400 jin per mu; with moderate fertility conditions the best density is 15,000 plants per mu and yields may reach 300-350 jin per mu.

Supply conditions are the same as for Changnong No 1.

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CSO: 4007/460

HUANG HE RIVER BED BECOMES FRUIT CENTER

Beijing GUANGMING RIBAO in Chinese 10 Aug 81 p 1

[Article: "Scientific Research Produces Results; Desert Becomes a Fruit Garden; Ancient Waterways of the Huang He Have Become Our Nation's Important Fruit Base"]

[Text] GUANGMING RIBAO Reporter Li Linhe [2621 2651 3109] reports: Recently, this reporter visited the ancient waterways of the Huang He. The former places covered by sandstorms and wild grasses have now become our nation's large fruit producing bases. The responsible comrade of the Zhengzhou Fruit Trees Institute of the Chinese Academy of Agricultural Sciences told this reporter, the ancient waterways of the Huang He were zoned as our nation's fruit producing region at the end of the 1950's. The whole region was 15 million mu of desert. Now over 2.5 million my have been planted with such fruit trees as apples. The annual yield of fruits is over 1 billion jin.

In the ancient waterways of the Huang He, the temperature in summer is high, the temperature difference between day and night is small and rainfall is too plentiful, all of which is unfavorable to the growth of apples. To solve the difficulties created by natural conditions, the Zhengzhou Fruit Trees Institute of the Chinese Academy of Agricultural Sciences established 57 scientific and research points in the ancient waterways of the Huang He and conducted scientific research activities together with the local masses. After several years of effort, they cultivated new varieties of apples such as Fu Shi which was suitable for growth in this locality. They also studied and summarized a full system of cultivation of deciduous fruit trees which suited the natural conditions of this region. Now, over 1 million mu of apple trees have been planted in this region, becoming one of our nation's major apple producing regions. Moreover, the quality of the fruit is relatively high. During the middle of the 1960's, grapes in this region were once planted on 70,000 mu. Later, because of a lack of wooden materials for the supports for the vines and because of high cost, the planting area was reduced to 30,000 mu. Consequently, the scientific and technical personnel of the Zhengzhou Fruit Trees Institute and the fruit farmers of the ancient waterway region together developed a study of cultivating grapes without supports for the vines. At the beginning of 1970, success was achieved. Now, grapes in this region are planted on more than 90,000 mu, becoming our nation's largest vineyard for wines. At present, over 40 percent of the grapes needed for the production of grape wines in our nation come from this region.

The ancient waterways of the Huang He was once one of the poorest regions of our nation. The development of fruits hastened the change in the economic situation of this region. Changshan County in Anhui Province has planted 130,000 mu of pear and apple trees with an annual yield over 100 million jin of fresh fruit. Just this one item alone has increased the annual per capita average income of the entire county by over 30 yuan. The Renhe Brigade of Minquan County in Henan Province has 1,200 mu of deserts. In the past, the per capita average income remained at about 30 yuan. At the beginning of the 1960's, over 900 mu were planted with apple trees. After harvest, the per capita average distribution rose to more than 150 yuan.

The development of fruit trees in this region has also served to break winds, stabilize sand, regulate weather and protect farmland. The fallen leaves can increase the organic substances in the soil and improve the soil. In the past, the grain crops of the Liuhuaqiao Brigade of Ningling County in Henan Province were frequently destroyed by wind and sand. Added to this the infertility of the land, the per mu yield of wheat generally did not surpass 80 jin. Since the middle of the 1960's when interplanting of fruits and food grains was implemented, each year has seen 800,000 jin of pears harvested and the average per mu yield of wheat reach over 600 jin. Agricultural science and technical workers believe further development of fruit trees in the ancient waterways of the Huang He in a big way should be one of the fundamental measures to reform this region.

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CSO: 4007/565

NATIONAL

PLASTIC FILM USED TO MULCH PEANUT PLANTS

Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 3, 1981 p 26

[Article by Zhang Xueli [1728 1331 4539], Jin County Institute of Agricultural Sciences, Liaoning Province, and Chen Qingnan [7115 1987 0589], Jin County Agricultural Bureau, Liaoning Province: "Cultivation of Peanuts with Plastic Mulch"]

[Text] The use of plastic film in peanut cultivation is a new high-yield method and an effective technique for preventing damage by low temperatures. Our county began experimenting with the method in 1979, and carried out experiments and demonstrations in many areas during 1980, all of which produced considerable increases in yield. In 1980, 11 experimental and demonstration plantings were made, with a total area of 144.9 mu, and the average increase in yield of unshelled peanuts was 160.4 jin per mu, or 36.2 percent. On the average, it is calculated that this will yield an increase of 55.14 yuan per mu in income. In addition, this cultivation method can also increase the fullness and number of kernels and save seeding, hoeing and thinning.

The principles on which mulching of peanuts with plastic film is based are: (1) it can increase soil temperature and allow earlier sowing; (2) it can decrease soil moisture evaporation; (3) the soil does not become hard, and has good aeration characteristics; (4) breakdown of organic matter is promoted. These principles for increasing yield are self-evident and will not be discussed in detail here. Below we primarily discuss important points of technique.

1. What kind of film should be used? According to our experiments, green, dark grapy or light gray polyethylene film produces the best temperature increase, followed by clear film, with black film the poorest. As to film thickness, 0.015 mm film is preferable to film 0.02 mm or more thick, and 0.012 mm film is preferable to 0.015 mm film. Surveys indicate that 21.8-26 jin of approximately 0.02 mm Dalian or Shenyang film is required per mu, costing 40-48 yuan; 17.35 jin of 0.015 mm Japanese or Changsha film is required per mu, costing 31.75 yuan; and 13.8 jin of 0.012 mm Dalian film is required per mu, costing 25.33 yuan. Film 90-95 cm wide is the most suitable. Before the film leaves the factory, holes should be punched in it at the proper spacing for the plants; factories which can only produce the film without holes should mark the plant spacings on it. The best length for the film is 200 m per bundle.

2. How should the ground be selected and prepared? According to our 2 years of experience, sandy soils with a good topsoil layer, good moisture and fertilizer retention properties and a loose layer for fruiting is best. Heavy, clayey soils should be improved with sand. Wind-blown soils are loose and insufficiently cohesive, and cannot be used to hold down the plastic once it is applied. Peanut fields where it is desired to use a plastic mulch should be deeply plowed and worked in autumn, then raked to remove rubbish. In early spring they should be compacted to retain soil moisture.

3. How should fertilizer be applied? With plastic mulching, soil organic matter is broken down and utilized rapidly, and if insufficient fertilizer is supplied, peanut growth in the later stage may be affected. The amount of ammonia fertilizer used should be one-third less than in ordinary cultivation, otherwise the plants will cover the exposed ground surface too early, resulting in leaf rot or leaf spot. In general, 8,000 to 10,00 jin of manure, 80-100 jin of calcium superphosphate, 15-20 jin of ammonium bicarbonate and 200 jin of straw and wood ash should be applied per mu. Chemical fertilizers can be applied in the process of ridging and preparing the beds.

4. What varieties should be planted? The varieties selected should have the following characteristics: (1) early-maturing, dwarf habit, limited branching, without excessively luxuriant growth; (2) bush or semi-vining variety; (3) many-flowered varieties which flower from the base and fruit in clusters; (4) disease-resistant varieties which do not die back early. In our county the frost-free period is 160-190 days and Luhua No 2, Xuzhou No 68-4 and Jinjiao No 4 intermediate-maturing varieties of peanuts are most suitable. With suitable plastic mulching, the plants cover the ground rather early, so that it is best to use the wide-and-narrow row method. Within a 95-100 cm wide bed, (including the irrigation furrow), two rows are planted; the smaller distance between the rows is 45 cm and the spacing between drills is 15-20 cm; two kernels are planted in each drill, and in our experience an increase in the spacing of plants and use of three seeds per hole tends to give higher output.

5. How should the beds be prepared and covered with plastic? The best bed width is 100 cm (including the irrigation ditch), with a height of 10-15 cm and a surface 70 cm wide, to assure that with a small spacing (40 cm) between the rows, there will be 15 cm of fruiting area on each side. When the plastic is laid down, there must be a 10-cm overlap so that soil can be used to hold it down at the side of the bed. In areas with severe spring droughts, the plastic should be applied 5 to 7 days before sowing; in areas with good soil moisture the beds may be prepared, the plastic applied and the seed sown at the same time. If the beds are made 1 or 2 days before the plastic is applied, the surface of the ridged area is arched slightly and pressed down with a wooden roller. If film without herbicide is used, herbicide must be sprayed on the bed surface and the irrigation ditch. Each mu can be sprayed with 0.5 to 0.6 jin of lasuo [?lasso], 100 ml of trifluralin emulsion, or no more than 0.4 jin of pucao prometryne. Sufficient water must be applied, at least 200 jin per mu. The plastic can be applied by a group of four persons; two to lay the film and two to weight it with soil.

6. How should the sowing be done? In our experience, the highest yields are realized with sowings at the end of April or the beginning of May. There are three sowing methods: (1) the seed can be sown in drills through the holes in the plastic; (2) plastic which does not have prepunched holes can be punched while sowing is in progress; (3) the seeds can be sown before the plastic is put down and holes torn in its when the seedlings appear. We believe that the first method is the best.

7. Should the mulch be removed or not? There is considerable disagreement as to whether or not it should be removed. We believe that if the film is thin enough, the peg can pierce through it into the soil, it need not be removed. But this is not a hard-and-fast rule. The mulch loses its temperature-increasing effect after the peanut plants cover the ground, and if the ground is dry during the growth period, and cannot absorb the rain, drought conditions may be aggravated. The best time to remove the plastic is about 50 days after the seedlings appear.

In addition, because peanuts germinate early, grow more vigorously and cover the ground earlier when plastic mulch is applied, and there is more soil moisture, damage done by disease and insects is rather serious, and care must be taken to protect against them at the right times.

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CSO: 4007/460

BRIEFS

WHEAT HARVEST—Thanks to the unprecedented bumper harvest of wheat this year, the 16 million peasants in northern Anhui have received an average of 280 jin grain per capita after retaining sufficient seedlings and fodder and overfulfilling the state procurement task. Per-mu yield of the area's 18 million mu wheatfields has for the first time exceeded 300 jin while the total output has topped the all-time-high record in 1979 by 886 million jin. By the end of August, the area had overfulfilled the state procurement plan by 140 million jin. [OW201617 Hefei Anhui Provincial Service in Mandarin 1100 GMT 17 Sep 81 OW]

XIAOXIAN COUNTY COTTON HARVEST--Xiaoxian County, Anhui, this year has reaped a good harvest from 240,000 mu of cotton. As of 10 September, the county had procured 590,000 jin of ginned cotton from the producers. [OW171717 Hefei Anhui Provincial Service in Mandarin 1100 GMT 15 Sep 81]

CSO: 4020/250

BRIEFS

SUGARCANE PRODUCTION--In recent years, per-mu sugarcane yield in Fujian's Xianyou County has exceeded 10,000 jin. During the cane-pressing season of 1980-81, the county's 120,000 mu of sugarcane gave per-mu yield of more than 1,600 jin of sugar, more than doubling the national average. [OW171717 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 17 Sep 81]

LONGXI PREFECTURE FRUITS--Longxi Prefecture, Fujian, has registered a good harvest of fruits this year. Total output of fruits is expected to exceed 1 million dan, an increase of more than 3 percent over the last year. Output of litchi this year will reach 310,000 dan, 90,000 dan more than last year. Output of bananas and other fruits will double that of last year. [OW171717 Fuzhou Fujian Provincial Service in Mandarin 1100 GMT 13 Sep 81]

CSO: 4020/250

BRIEFS

BUMPER FISHING CATCH--On 28 August, the Hebei broadcasting station editorial board published a short commentary entitled "Do Everything Possible To Strive for a Bumper Autumn Fishing Catch." The commentary said that, due to the poor state of resources, the province had not fulfilled well its quotas for fishing production and procurement this year. The quantity of fishing catch and aquatic products procured this year was smaller than in the corresponding period of last year. Consequently, fishermen's income was affected and markets had difficulties in obtaining supplies of aquatic products. All prefectures and counties along the coast must make great efforts to improve this situation and resolutely strive for a bumper autumn fishing catch. The commentary demanded that all localities strengthen leadership over fishing production, further improve and perfect the fishing production responsibility system of linking remuneration with output and step up procurement of aquatic products and market control. [HK120320 Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 24 Aug 81 HK]

CSO: 4007/596

BRIEFS

CATTLE RAISING--Harbin, 22 Sep (XINHUA)--Dorbod Mongol Autonomous County, Heilongjiang, is raising some 39,000 head of cattle of which some 3,600 are dairy cows. In the first 6 months of 1981, the county delivered more than 3,900 tons of milk to the state. In the same period, it produced 532 tons of dairy products besides milk.[OW231713]Beijing XINHUA Domestic Service in Chinese 0121 GMT 22 Sep 81 OW]

CSO: 4007/596

HUNAN

BRIEFS

ANTIDROUGHT WORK--Over the past 2 months, Xiangxi Autonomous Prefecture and Huaihua Prefecture have been struck by serious drought. The Hunan Provincial CCP Committee and the provincial people's government recently sent principal responsible comrades to the seriously drought-stricken areas in the autonomous prefecture to inspect the disaster situation and comfort the people in those areas. The provincial commercial departments have sent some 35,000 tons of diesel oil for use in fighting drought, 3,000 tons of gasoline for agricultural use and 10,000 tons of chemical fertilizers. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 29 Aug 81 HK]

CSO: 4007/596

BRIEFS

HUAIYIN COUNTY CORN HARVEST--Jiangsu's Huaiyin County has reaped a bumper harvest from its 200,000 mu of cornfields, with per unit yield reaching 527 jin and total output topping last year's by 35 percent. [OW171717 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 15 Sep 81]

AUTUMN SOWING PREPARATIONS--Jiangsu's Shuyang County is making preparations for autumn sowing. By the end of July, the county had assigned production teams to plant 1.82 million mu of wheat, barley, naked barley, rape and green manure. The county has accumulated 80 million dan of manure for use in autumn sowing. More than 30 jin of chemical fertilizer is available for each of the 1.03 million mu of wheat, barley and naked barley. Industrial, transport, commercial and supplies departments in the county have made available for autumn sowing more than 20,000 dun of chemical fertilizer, more than 50,000 farm implements and more than 1,000 dun of farm chemicals. [OW171717 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 16 Sep 81]

CSO: 4020/250

BRIEFS

XINFENG COUNTY TOBACCO--By the end of August, Jiangxi's Xinfeng County had procured 1.05 million jin more cured tobacco than during last year, which was 5.7 times the 1980 figure, thereby fulfilling this year's tobacco procurement plan. Some 64 percent of the procured tobacco is marketable. This year the county planted tobacco on 18,385 mu, which was 2.3 times the last year's acreage. [OW171717 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 16 Sep 81]

CSO: 4020/250

BRIEFS

WATER STORAGE--Changchun Municipality, Jilin Province, has closed the sluice gates of the city's 19 large and medium-sized reservoirs to store ample water for next year's irrigation, urban water consumption and power generation. By 11 September, the reservoirs had stored 560 million cubic meters of water, an increase of 85 million cubic meters over the corresponding 1980 period. [Changchun Jilin Provincial Service in Mandarin 2200 GMT 10 Sep 81 SK]

CSO: 4007/596

BRIEFS

GAI COUNTY COTTON HARVEST--Gai County, Liaoning Province, reaped a bumper cotton harvest in 1981. The per-mu yield is estimated at 102.7 jin, and the total output is expected to increase 30 percent over the 1981 figure. [SK210332 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 20 Sep 81 SK]

CSO: 4007/596

BRIEFS

AGRICULTURAL LOANS--The Bayannur League Agricultural Bank, Nei Monggol Region, granted 7 million yuan of agricultural loans this year to help commune members grow sunflowers, hops and beets. This year, hop-growing areas in the league increased 290 percent over 1980. Sunflower-growing areas totaled 758,000 mu, and beet-growing areas reached 278,000 mu. [SK091010 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 8 Sep 81 SK]

WOOL PROCUREMENT--Hohhot, 15 Sep (XINHUA)--As of the end of August, Nei Monggol had already overfulfilled its annual wool procurement plan by 19.2 percent. The amount of wool procured was 5.9 percent higher than the total amount of wool purchased in 1980. [Excerpt] [OW151221 Beijing XINHUA Domestic Service in Chinese 0052 GMT 15 Sep 81 OW]

CSO: 4007/596

SUPERIOR COTTON VARIETY 'BO MIAN NO 1' BRED

Jinan DAZHONG RIBAO in Chinese 9 Aug 81 p 1

[Article: "Our Province Again Breeds a Superior Cotton Variety; 'Bo Mian No 1' Passes Evaluation; Its Per Unit Yield and Its Fiber Quality Are Slightly Higher Than Those of 'Lu Mian No 1'"]

[Text] Another superior cotton variety "Bo Mian No 1" of Shandong Province has passed evaluation recently at Beizheng. At the evaluation meeting held by the provincial scientific committee, 31 cotton specialists, professors and scientific and technical workers from all over the nation were of the opinion that the per unit yield of "Bo Mian No 1" was slightly higher than that of "Lu Mian No 1," the gin turnout, the length of lint and the quality of the fiber are better than those of "Lu Mian No 1," and it can be used as an appropriate new variety of cotton for grouped planting in our province at present.

"Bo Mian No 1" was selectively bred by hybridization in 1973 by the Hiumin Prefectural Agricultural Science Institute and was successfully bred and named in 1977. From 1978 to 1979, it participated in regional experiments of new cotton varieties of the province. From 1979 to 1980, it again participated in the national regional experiments of new cotton varieties for the Yellow River Valley. The per mu yield of ginned cotton averaged 171.7 jin. It is an early maturing (slightly early medium-maturing) variety. The entire growth period is about 142 days, the flowering rate before the frost period is 79.5 percent. The single boll weighs about 4.8 grams, the boll opens easily and the content is white. The growth trend is strong, growth during the latter period is better, it matures early but does not wither early, it can fully utilize the effective boll forming period, and the potential for increased yields is high. In addition, the root system of this variety is developed, the plant roots deeply, the area of extension of the side roots is large, the plant's ability to resist drought is stronger and its revival after encountering disasters is also stronger. According to determinations made by concerned units, its fibers are longer; the fineness, strength and maturation coefficient of the fibers are medium. The fibers are longer than the main body of the fibers of "Lu Mian No 1" by 1.56 millimeters, the strength is 0.3 grams, and the breaking length is 1.66 kilometers. The comprehensive evaluation showed the quality of the cotton textile is from first grade premium to second grade premium.

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SHANDONG

INCREASED GRAIN, COTTON YIELDS IN LINQING COUNTY ACHIEVED

Jinan DAZHONG RIBAO in Chinese 11 Aug 81 p 1

[Article: "Many Commune Brigades in Linqing County Have Found a Way to Produce Increased Yields of Both Food Grains and Cotton; Cotton Stimulates Increases in Food Grains, Food Grains Assures Cotton Increases; Responsible Comrades of the State Council Encourage Them to Go Ahead and Plant More Cotton and Contribute More"]

[Excerpts] XINHUA, August 9, Jinan: The key cotton producing regions have developed their local superiority, expanded the planting of cotton and contributed more to the state. Will these efforts increase the state's burden of food grains? "No, we have proven through more than 2 years of practice that by planting more cotton, food grains have not declined much from the past. Now many commune brigades have found a way to produce increased yields of both cotton and food grains." This was the statement made by Wang Jiasheng [3769 0502 0524], secretary of the Linqing County committee, who spoke recently at the discussion meeting on cotton production held in Jinan. The meeting was attended by responsible comrades of the State Council. The responsible comrades of the State Council were satisfied by the report given by the Linqing County committee and encouraged the committee members to insist on following this road, i.e., to plant more cotton and to contribute more to the state.

Linqing County has historically been a famous cotton producing region. During the 1950's, income from cotton constituted over two-thirds of the total income from agriculture. The farmers lived a rich life. Later, because of the influence of the leftist ideology, food grains were one-sidedly grasped and cotton production was squeezed out resulting in the very slow development of agriculture. After the Third Plenum of the Party's 11th Congress, the Linqing County committee started out from the actual situation of the locality, revived and developed cotton production, and realized "grasping food grains and cotton together and grasping cotton in a key manner." The yield of cotton for the entire county continued to create new records and the per unit yield of food grains reached new levels year after year. Comparing 1980 to 1978 shows the total yield of cotton for the whole county increased from 123,000 dan to 517,000 dan; total agricultural income increased from 53.04 million yuan to 127.8 million yuan; per capita average of ginned cotton sold to the state increased from 25 jin to 105 jin; the collective savings increased from 4.31 million yuan to 22.07 million yuan; average per capita distribution to commune members increased from 42.2 yuan to 141 yuan.

"Will the expansion of the area of cotton fields affect the yield of food grains?" This is a question that has been debated ceaselessly for the past 2 years in Linqing County. A unified understanding was gained only this year when a bumper wheat harvest was gained. Practice has proven that developing cotton production will not affect the yield of food grains but can stimulate the production of food grains. Some years ago, this county grasped food grains and squeezed out cotton. The area of food grain fields expanded but because the brigades did not have money, because there were no fertilizers to apply to the soil and because the people were poor and the land was infertile, the yield of food grains did not increase with the unit yield remaining at 300 to 400 jin. During the past 2 years, cotton production increased, effectively providing massive amounts of fertilizers for increased food grain production in four aspects: One is cake fertilizer which is a sideline product of cotton. The second is that the income from cotton was used to purchase phosphorous fertilizers. The third is the purchase of chemical fertilizers resulting from rewards for increased yields of cotton. The fourth is that the cotton has provided miscellaneous and indigenous [compost] manure for agriculture. During the recent 2 years, the fertility of cotton fields and food grain fields visibly increased because of the addition of fertilizers. Also, because the economic value of cotton is high, the gain is large. Planting more cotton can provide massive amounts of capital for increasing the yield of food grains. The production teams and the commune members now have money and thus have the strength to build water conservancy projects, purchase large and medium-sized farm equipment and chemical fertilizers. Therefore, comparing this year to last year, although the area of wheat of the entire county was reduced by over 50,000 mu, the per unit yield rose by 108 jin and the total yield increased by 24.81 million jin, an increase of 34 percent. The commune members expressed their popular opinion that this year's bumper harvest of wheat was due to last year's bumper harvest of cotton.

The experience of Linqing shows that with the production responsibility system, cotton has stimulated increases in food grains, food grains have assured the increase in cotton, and this cycle and interdependence enabled both food grains and cotton to increase their yields.

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BRIEFS

WATER SUPPLY PROJECT--The CCP Central Committee and the State Council recently decided to award a contract for the construction of the "Yin Luan" project to Tianjin Municipality. The project, financed by the state, calls for construction of facilities to transfer water from the (Panjiakou) reservoir in Hebei Province to the (Yuqiao) reservoir in Jixian County of Tianjin, construction of water storages in Tianjin suburbs and laying of pipes leading to Tianjin urban areas. To prepare for the construction project, the Tianjin Municipal CCP Committee held a meeting on 14 September and planned to start the construction in early 1982. [OW201439 Beijing Domestic Service in Mandarin 1200 GMT 15 Sep 81 OW]

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BRIEFS

FORESTRY CONFERENCE—The provincial forestry work conference ended in Hangzhou on 19 September. The meeting called on party committees and people's governments at all levels to do a good job in establishing ownership of hills and forests and implementing forestry production responsibility systems. The conference was held by the Zhejiang Provincial CCP Committee and people's government. Chen Zuolin, secretary of the provincial party committee, and Wu Zhichuan, vice governor, spoke at the meeting. The meeting was attended by responsible persons of prefectural, municipal and county party committees, forestry bureaus and courts, PLA units stationed in Zhejiang and provincial departments concerned. [Hangzhou Zhejiang Provincial Service in Mandarin 1040 GMT 19 Sep 81 OW]

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Botany

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TITLE: "Oxygen Sensitive Nitrogen-fixing Mutants of Anabaena"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 4, Jul 81 pp 288-296

TEXT OF ENGLISH ABSTRACT: Two Anabaena mutants having heterocysts but incapable of fixing molecular nitrogen in air have been isolated by using ultraviolet radiation or NTG mutagenesis. Their vegetative cells differentiated into heterocysts at a higher frequency than did those of the wild type. The phenotype of the mutants is stable and a low frequency of spontaneous reversion was observed.

Under microaerobic conditions the mutant cells can express the genetic information which encodes nitrogenase synthesis and are capable of utilizing nitrogen for growth with a low acetylene reduction activity. The level of nitrogenase activity was correlated reciprocally with the content of cell phycocyanin and the light intensity. Both synthesis and activity of the mutant nitrogenase were very

[Continuation of ZHIWU XUEBAO No 4, Jul 81 pp 288-296]

sensitive to oxygen *in vivo* when compared with the wild type. Introduction of 1 percent O_2 (v/v) into the gas phase inhibited acetylene reduction evidently. Exposure of the mutant suspension to 20 percent O_2 (v/v) resulted in total and irreversible denaturation of nitrogenase. Withdrawal of O_2 in the gas phase resulted in synthesizing the nitrogenase de novo. The synthesis process was repressed by chloramphenical or ammonia.

The nitrogenase activity of mutant cells increased significantly either by nitrogen-starvation to decrease the phycocyanin content or by lowering the light intensity. Specifically, during the anaerobic induction by treating the mutant filaments with dichloromethylurea, which prevents photosynthetic oxygen production, the specific activity of mutant nitrogenase was nearly equivalent to that of the wild type. The ability to reduce 2, 3, 5-triphenyltetrazolium was lower in heterocysts and vegetative cells of mutants than in those of the wild type.

The results suggest that the oxygen sensitivity of nitrogen fixation by heterocystous blue-green algal mutants may be due to the defect of some enzymic systems which might play a role in scavenging oxygen toxicity, so that the process of nitrogen fixation is inhibited by the active oxygen produced by vegetative cells. The mechanism of protecting nitrogenase from oxygen damage in blue-green algae is discussed.

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TITLE: "Studies on Nitrogen Fixation and Photosynthesis in Azolla imbricata (Roxb) and Azolla filiculoides Lam"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 4, Jul 81 pp 306-315

TEXT OF ENGLISH ABSTRACT: Azolla imbricata and Azolla filiculoides were studied in regard to: the nitrogenase-catalyzed reactions of C_2H_2 reduction and H_2 production, employing gas chromatography, and photosynthetic CO_2 uptake as well as simultaneous determination of C_2H_2 reduction, photosynthesis and respiration in a closed system. Photosynthetic CO_2 uptake and respiratory CO_2 production were determined using an infrared gas analyzer. These studies have indicated the following: 1. Nitrogenase-catalyzed C_2H_2 reduction is largely light dependent. About 10,000 lux were required for saturation in A. imbricata. A concentration of 10 percent C_2H_2 in the gas phase is saturating for C_2H_2 reduction, and 1 percent CO inhibits C_2H_2 reduction with concomitant H_2 production. 2. A determination of

[Continuation of ZHIWU XUEBAO No 4, Jul 81 pp 306-315]

C_2H_2 reduction activity as a function of leaf age established a developmental gradient in both A. imbricata and A. filiculoides. In both species activity is negligible in the apex, increases markedly in progressively older leaves, plateaus, and decreases as leaves senesce. The developmental gradient of activity is much steeper in A. imbricata than in A. filiculoides due to differences in their gross morphology. 3. Nitrogenase-catalyzed H_2 production in A. imbricata was not detectable under Ar, but was appreciable under Ar containing 15 percent C_2H_2 and 2 percent CO. H_2 production was also determined under the latter gas phase as a function of the leaf. These studies implicate the occurrence of an uptake hydrogenase. 4. The photosynthetic compensation points in air are approximately 30 ppm CO_2 for A. imbricata and A. filiculoides. 5. Simultaneous measurements of photosynthesis, respiration and C_2H_2 reduction in A. imbricata demonstrated the immediate dependence of nitrogenase on photosynthetically captured radiation for energy, but an indirect dependence on CO_2 fixation.

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TITLE: "Pheromone of Pectinophora gossypiella: The Effects of Habituation on Short Distance Response Level of Males"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 3, Aug 81 pp 244-250

TEXT OF ENGLISH ABSTRACT: Exposure of male moths of the cotton pink bollworm, Pectinophora gossypiella (Saund.), to Gossyplure, the sex pheromone of P. gossypiella, resulted in diminishing short distance sexual response to natural female extract. The degree of habituation was proportional to the logarithm of the pheromone dosage. Habituation raised the responsive threshold of males to the sex pheromone. Nearly all habituation to pheromone occurred during the first 10 minutes of exposure, but the time required for recovery from habituation was longer and was dosage dependent. Z-7, Z-11-hexadecadienyl acetate, one component of Gossyplure, inhibited the male response to natural female extract more effectively than did Gossyplure. The relation between habituation of sex behavior response of males to sex pheromone and disruption of mating in fields under the conditions of dense or sparse population is discussed.

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TITLE: "The Relation between Long-distance Northward Migration of the Brown Planthopper (Nilaparvata lugens Stal) and Synoptic Weather Conditions"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 3, Aug 81 pp 251-261

TEXT OF ENGLISH ABSTRACT: Synoptic analyses of long-distance migration of the brown planthopper Nilaparvata lugens Stal in the southeastern part of China in 1977 and 1978 have shown the following characteristics:
(1) The immigratory areas in the northward migration in spring-summer are often controlled by the frontal zone and the subtropical high, and they may be divided into the frontal zone controlled type and the subtropical high controlled type.
(2) The emigratory areas in the northward migrating process in spring-summer are located in the warm sector of warm low on surface and in partial southern air stream on 850 mb isobaric chart, especially in the region controlled by the southwest air stream.

[Continuation of KUNCHONG XUEBAO No 3, Aug 81 pp 251-261]

(3) The meteorological factors, such as temperature, wind velocity and rainfall, etc., have an important influence on the emigration, immigration and migratory process of the brown planthopper.

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TITLE: "Studies on the Kairomone Influencing Oviposition Behavior of *Tetrastichus schoenobii* Ferriere: Source and Extraction"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 3, Aug 81 pp 262-267

TEXT OF ENGLISH ABSTRACT: The present paper is the first part of a study dealing with the chemical stimulant (kairomone) initiating oviposition behavior of *Tetrastichus schoenobii*, an egg parasite of the yellow paddy borer, *Tryporyza incertulas* (Walker). It demonstrates the location of the kairomone in *Tryporyza incertulas* and *Scirpophaga* sp., and describes a method of extraction of the active ingredient from the host.

The results demonstrate that the kairomone which elicits both the host-searching and oviposition behavior by *T. schoenobii* female is located in both the hairs of the host egg mass and the anal tuft of the female moth. The active ingredient was successfully extracted by acetone-water (1:1) solvent. However, it cannot be

[Continuation of KUNCHONG XUEBAO No 3, Aug 81 pp 262-267]

extracted by n-hexane. If acetone-water extract of the host egg hairs was applied to a paper model egg, the model egg elicited both the antennal drumming and inserting of the ovipositor of the parasite.

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TITLE: "The Parasites of the Rice Gall Midge (Orseolia oryzae (Wood-Mason)) in Guangdong Province and Their Susceptibilities to Insecticide Applications"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 3, Aug 81 pp 274-282

TEXT OF ENGLISH ABSTRACT: During the last four years the authors have conducted a series of investigations on the collection, rearing and identification of the parasites of the rice gall midge in Guangdong Province. Preliminary observations on the bionomics of the parasites and experiments on the effect of insecticides on them were also carried out. The results of studies obtained are summarized as follows:

1. Altogether five species of hymenopterous parasites on the rice gall midge have been found in Guangdong Province. They are: *Platygaster* sp. (gregarious endoparasite), *Platygaster* sp. (solitary endoparasite), *Neanastatus grallarius* Masi, *Neanastatus oryzae* Ferriere, and *Obtusiclava oryzae* Sabba Rao. The morphology of

[Continuation of KUNCHONG XUEBAO No 3, Aug 81 pp 274-282]

the various stages of these parasites is described and a brief account of their bionomics is also given. Usually the gregarious *Platygaster* parasite is the predominant species, but during the seedling and tillering stage of the late crop (both in the seed beds and in the field) the population of *Neanastatus* may increase to as high as 70-80 percent of the total of the five species. These parasites possess different characteristics in biology and play different roles in suppressing the outbreaks of rice gall midge. Further investigations will help us to know how to utilize these parasites in the program of integrated pest management in rice fields.

2. The percentage of parasitism of the rice gall midge in the seed beds and fields of the late crop was found to be very high, in some cases as high as 90 percent or more. This contributes an important factor to the control of populations of the gall midge. The outbreak of the gall midge is closely correlated to the cropping system; the late crop and the triple rice crop afford a "bridge" for the favorable reproduction of the gall midge. The irrational application of insecticides kills the natural enemies and is also one of the factors leading to the resurgence of the insect pest.

3. According to investigations made in 1976 in the Sanhua Brigade, Hua County, the percentage of parasitism on the rice gall midge in the overwintering generation in wild rice (*Oryzae rufipogon*) reached as high as 65 percent, and in the first and second generations of the early crop the parasitism was found to vary from 32.5 percent to 33.3 percent. However, in the seed beds of the late crop, due to the frequent applications of insecticides, usually with a spraying of Methyl Parathion-

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BHC and Dimethoate at an interval of four to five days, the percentage of parasitism dropped to 1.53 - 4.5 percent, whereas in the field with no insecticide treatment it was about 44 percent. This indicates that the conventional method of the application of insecticides adversely affects the parasites.

4. Laboratory experiments were carried out to determine the toxicity of several insecticides on the parasites of the rice gall midge. As a contact poison the organophosphorus compound Pyrimioxythion (N-23) was the most toxic, and chlorodimeform was the least toxic. The order of toxicity to *Platygaster* sp. was: Pyrimioxythion > Trichlorofon > Dimethoate > (2, 5-Dimethylphenyl-N-methylcarbamate) > Chlorodimeform. The LC_{50} of the five compounds was estimated to be 1.1, 3.5, 5.5, 15.0 and 24.0 ppm, respectively. As a foliar spray, Pyrimidoxythion is also more toxic than Methyl Parathion-BHC to *Obtusiclava oryzae* and *Neanastatus* spp. The formulations and application methods of the insecticides is very important for the protection of the parasites. As a rule, broadcasting of impregnated dusts is less hazardous to the natural enemies and the root-zone method of application gives good protection to the parasites and spiders in the rice field. Thus there is a possibility that the rational use of insecticides will help to increase the stability of the paddy agro-ecosystem and it may be of great utility in developing an efficient integrated control program for the rice gall midge as well as other insect pests.

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TITLE: "Studies on the Rice Virus Vector Small Brown Planthopper *Laodelphax striatella* Fallen"

SOURCE: Beijing KUNCHONG XUEBAO [ACTA ENTOMOLOGICA SINICA] in Chinese No 3, Aug 81 pp 283-290

TEXT OF ENGLISH ABSTRACT: The small brown planthopper *Laodelphax striatella* Fallen is the vector of rice black-streaked virus and rice stripe virus. The incubation period of black-streaked virus in the vector is from 17 to 19 days; this virus persists in the vector but there is no transovarial passage. The low temperature threshold for acquisition feeding is below 8°C, and the vector cannot acquire and transmit this virus at 4-5°C.

The vector occurs in six generations per year. Many emigrating macropterous adults occur in the first and third generations; the transmission cycle of the virus and its vector is as follows: winter wheat → the first crop of rice → the second crop of rice. The major infection periods occur in late May and early June during the early transplanting stage for the first crop of rice, in the middle of July and

[Continuation of KUNCHONG XUEBAO No 3, Aug 81 pp 283-290]

early August during the seedling and early paddy field stage for the second rice crop, and in the winter during the seedling stage of barley and wheat.

Based on the cultural practices, such as synchronizing the rice planting in vast areas and selecting and utilizing the resistant rice varieties, the virus diseases can be controlled by killing the vectors with insecticides at the winter seedling stage of barley and wheat, and at the early paddy stage of the second rice crop.

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Zootaxonomy

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TITLE: "Notes on Some Freshwater Rotifers from China"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 3, Jul 81 pp 235-243

EXCERPT FROM ENGLISH ABSTRACT: The material upon which the present paper is based was collected as part of the general limnological survey of 13 reservoirs in south China during July to September, 1978. Among the material, four species and subspecies are considered to be new to science, while *Filinia camasecla cambodgensis* Bērzinś, *Testudinella brycei* Hauer and *Lecane ohioensis* v. *jorroi* (Arēvalo) are recorded for the first time in China. The diagnostic features of these new taxa are provided.

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TITLE: "Two New Subspecies of Fleas of the Genus *Amphalius* Jordan, 1933 (Siphonaptera: Ceratophyllidae)"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 3, Jul 81 pp 287-290

TEXT OF ENGLISH ABSTRACT: *Amphalius spirataenius badongensis* Ji, Chen et Wang, subsp. nov.
The apical appendage of aedeagal apodeme forms a spiral of four convolutions, while that of the nominate subspecies curls in only three convolutions. Setae in the lateral patch on tergum VIII of female are pointing backward, but those of the nominate subspecies upward and even slightly forward. Types ex *Ochotona thibetana* from Shennongjia, Hubei, are deposited in the Institute of Epidemiology, Chinese Academy of Medical Sciences, Beijing.

[Continuation of DONGWU FENLEI XUEBAO No 3, Jul 1981 pp 287-290]

Amphalius clarus kunlunensis Yu et Wang, subsp. nov.
The movable process has nearly the same width from top to base, while that of the nominate subspecies expands gradually to the base. The postero-lateral margin of the posterior arm of sternum IX is concave upward and has a sinus, while, on the contrary, that of the nominate subspecies is convex ventrally and without a sinus. Types *ex Ochotona macrotis* from Yutian, Xinjiang, are deposited in the Institute of Epidemiology, Xinjiang Uyghur Autonomous Region.

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TITLE: "A New Species of *Macrostylophora* from Yunnan (Siphonaptera: Ceratophyllidae)"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 3, Jul 81 pp 298-299

TEXT OF ENGLISH ABSTRACT: *Macrostylophora luchunensis*, sp. nov.
It resembles *M. bispiniforma* Li, Hsieh et Yang, 1976, in the following characteristics: (1) dorsal margin of pronotum rather humped off roundly; (2) with a short antepygidial process and two antepygidial bristles; (3) body rather large. But the new species differs from the latter in: (1) the posterior margin of sternite VII more or less truncate, with a wide but shallow sinus, (2) posterior end of the head of spermatheca somewhat rhomboid.

Holotype female, body length 4.0 mm, hind tibia 0.5 mm, collected from Luchun, Yunnan, in April, 1972, off *Ratufa bicolor*. Deposited in Guiyang Medical College.

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TITLE: "A New Species of the Genus Urochela Dallas (Hemiptera: Urostylidae)"

SOURCE: Beijing DONGWU FENLEI XUEBAO [ACTA ZOOTAXONOMICA SINICA] in Chinese No 3, Jul 81 pp 320-321

TEXT OF ENGLISH ABSTRACT: Urochela sordida, sp. nov.
Male: Length 10.91 - 11.22 mm, width 4.44 - 5.10 mm. First segment of antenna dark brown, densely covered with black punctures, second and third segments black, fourth and fifth segments with basal half yellowish-brown and apical half black, all segments clothed with depressed short hairs. Lateral margins of pronotum straight and conspicuously recurved upwardly. Connexivum black, yellowish-brown at incisures. Six irregular black spot-stripes situated on both sides of each abdominal segment. The ventral process of pygofer recurved upwardly.

Female: Larger.

Holotype male, allotype female, paratypes three male, two female, Kangding, Sichuan; 18 November 1973. Allied to U. tunglingensis Yang, but different in lateral margins of pronotum being nearly straight, its anterior half slightly arcuated; connexivum black, yellowish-brown at incisures; the ventral process of

[Continuation of DONGWU FENLEI XUEBAO No 3, Jul 81 pp 320-321]

male pygofer illustrated in figures. All type specimens are deposited in the Northwest Plateau Institute of Biology, Chinese Academy of Sciences.

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